Regional Highlights

National Geodatabase of Deep-Sea Coral Locations

The Deep Sea Coral Research and Technology Program is building a national geodatabase that houses spatial records of deep-sea corals. Regional Fishery Management Councils could use records in the geodatabase to "protect deep sea corals from physical damage of fishing gear or to prevent loss or damage to such fishing gear from interactions with deep sea corals" under their discretionary authorities provided by MSA Section 303 (b)(2)(B).

The records in the geodatabase are derived from the research funded by the program, results of other NOAA programs that study the deep sea, and data voluntarily contributed by other federal agencies, research institutions and international organizations. The geodatabase has grown from 1,700 records from the East Coast and the Gulf of Mexico in 2010, to over 85,000 records from around the United States by 2011. Information from the national geodatabase, the first of its kind, has been provided to the New England and Pacific Fishery Management Councils for their use in designing habitat conservation measures.

Using innovative tools to advance deep-sea coral science

The Deep Sea Coral Research and Technology Program applies innovative research tools to answer key science questions. One such tool is the autonomous underwater vehicle (AUV), a robot that can be programmed to independently travel underwater along a set route at a certain height above the ocean bottom, photographing what lives on the seafloor. It can also measure water quality and map the seafloor with sonar. An AUV was used in the program's research off the west coast and captured thousands of photos revealing the deep-sea ecosystems formed on a foundation of corals and sponges. See page page 11 for research progress.

Complementing the use of multibeam, AUVs, ROVs, and submersibles, the program employs other innovative and cost-effective methods, such as analyzing archived deep-sea images and fisheries bycatch data, and developing predictive models, to identify where deep-sea corals are likely to be. Additionally, in the southeast region and off the west coast, the program also maps the degree of geographic overlap between bottom fishing and deep-sea corals so that the Regional Fishery Management Councils and NOAA can make informed decisions to reduce the interactions between fishing gear and the corals.